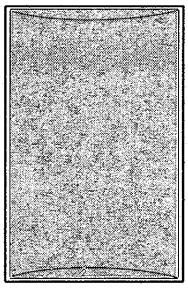
aiwa

aiwa SERVICE

SX-AV2000
SX-C2000
SX-R2000



SPEAKER SYSTEM

• TYPE:YU

SERVICE MANUAL

SYSTEM	MODEL NAME
SX-AVR2000	SX-AV2000 SX-C2000 SX-R2000 *TS-W35

* If requiring information about the TS-W35 see Service Manual of TS-W35 U (S/M Code No. 09-976-204-00I)

S/M Code No. 09-977-214-90T

SPECIFICATIONS

SX-AV2000

Type	Full-range bass reflex type
Speaker	Full-range: 120 mm × 2 cone type Tweeter: 25 mm cone type
Impedance	8 ohms
Maximum input power	200 W (Peak)
Dimensions (W × H × D)	260 × 160 × 122 mm (10 1/4 × 6 3/8 × 4 7/8 in.)
Weight	2.4 kg (5 lb 5 oz)

SX-C2000

Type	Full-range bass reflex type
Speaker	Full-range: 120 mm × 2 cone type Tweeter: 25 mm cone type
Impedance	8 ohms
Maximum input power	180 W (Peak)
Dimensions (W × H × D)	260 × 160 × 122 mm (10 1/4 × 6 3/8 × 4 7/8 in.)
Weight	2.4 kg (5 lb 5 oz)

SX-R2000

Type	Full-range bass reflex type
Speaker	120 mm full-range cone type
Impedance	8 ohms
Maximum input power	100 W (Peak)
Dimensions (W × H × D)	260 × 160 × 122 mm (10 1/4 × 6 3/8 × 4 7/8 in.)
Weight	1.5 kg (3 lb 5 oz)

- Design and specifications are subject to change without notice.

ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-AS1-610-010		SPKR,CORD 30M

SPEAKER PARTS LIST (SX-R2000)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-AS4-001-010		CABI,FR AV (AV2000,C2000)
2	87-AS4-002-010		CABI,FR R (R2000)
3	87-AS4-005-010		GRILLE,FRAME ASSY
4	87-AS4-602-010		SPKR,120 (AV2000,C2000)
5	87-AS4-604-010		SPKR,120 R (R2000)
6	87-AS4-606-010		SPKR,CERAMIC (AV2000,C2000)
7	87-AS4-610-010		TERMINAL,ASSY AV (AV2000)
8	87-AS4-611-010		TERMINAL,ASSY C (C2000)
9	87-AS4-612-010		TERMINAL,ASSY R(R2000)

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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Tokyo Japan

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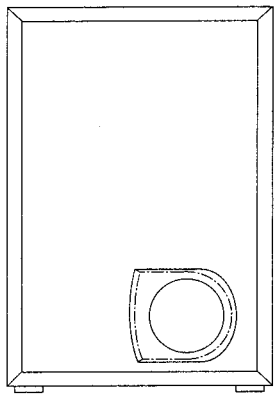
aiwa SERVICE

TS-W35



ACTIVE SPEAKER SYSTEM

• TYPE: EZ,K

SERVICE MANUAL

SPECIFICATIONS

Input terminals	
	INPUT 1 jack
	INPUT 2 terminals
Input sensitivity/impedance	
	INPUT 1: 0.8 V/50 kilo ohms (at 60 Hz)
	INPUT 2: 8 V/4.4 kilo ohms (L and R) (at 60 Hz)
Output terminals	
	SPEAKERS OUT terminals
Power output	
	Rated: 50 W (8 ohms, T.H.D. 1%, 60 Hz/DIN 45500)
	Reference: 60 W (8 ohms, T.H.D. 10%, 60Hz/DIN 45324)
	DIN Music Power: 100W
Frequency response	
	35 Hz – 200 Hz
Speaker type	Bass reflex type
Speaker unit	20 cm (Magnetically shielded type)
Power requirement	AC 230 V, 50 Hz
Power consumption	60 W
Dimensions (w/h/d)	260 x 304 x 381 mm
Weight	7.6 kg

• Design and specifications are subject to change without notice.

S/M Code No. 09-983-254-1FP

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YP4-906-010		IB,E(EGFSI) DHM<EZBM>
1	87-YP4-905-010		IB,K(E)DHM<KBNM>
2	87-YP3-632-010		CORD ASSY,PIN P-C285V-30

ELECTRICAL MAIN PARTS LIST

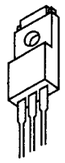
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-002-727-010		IC,NJM4558L
	87-A20-102-010		IC,STK405-090A
	84-SP2-636-010		IC,MC14013BCP
TRANSISTOR			
	89-318-155-080		TR,2SC1815 (0.4W)
	89-110-155-080		TR,2SA1015(0.4W)
	89-406-555-080		TR,2SD655 (0.5W)
	89-322-405-080		TR,2SC2240GR
	89-420-612-010		TR,2SD2061 (2W)
DIODE			
	87-020-465-080		DIODE,1SS133 (110MA)
	87-020-405-080		ZENER,HZ12B2L
	87-017-978-080		DIODE,1N4003
	87-020-123-080		DIODE,DS446 (200MA)
	86-SP2-639-010		DIODE,D3SBA20
MAIN C.B			
C1	87-010-405-080		CAP, ELECT 10-50V
C2	87-010-405-080		CAP, ELECT 10-50V
C3	87-010-405-080		CAP, ELECT 10-50V
C5	87-018-132-080		CAP, CER 2200P-16V
C6	87-010-401-080		CAP, ELECT 1-50V
C7	87-018-209-080		CAP, CER 0.1-50V
C8	87-010-382-080		CAP, ELECT 22-25V
C11	87-018-209-080		CAP, CER 0.1-50V
C12	87-010-405-080		CAP, ELECT 10-50V
C13	87-010-401-080		CAP, ELECT 1-50V
C14	87-018-209-080		CAP, CER 0.1-50V
C18	87-018-123-080		CAP, CER 220P-50V
C19	87-010-405-080		CAP, ELECT 10-50V
C20	87-010-385-080		CAP, ELECT 220-25V
C21	87-010-405-080		CAP, ELECT 10-50V
C22	87-018-131-080		CAP, CER 1000P-50V
C23	87-018-131-080		CAP, CER 1000P-50V
C24	87-010-401-080		CAP, ELECT 1-50V
C25	87-010-401-080		CAP, ELECT 1-50V
C26	87-010-406-080		CAP, ELECT 22-50
C27	87-010-406-080		CAP, ELECT 22-50
C28	87-018-141-080		CAP, CERA-SOL SS 3.3P CH
C29	87-018-141-080		CAP, CERA-SOL SS 3.3P CH
C30	87-018-209-080		CAP, CER 0.1-50V
C31	87-018-209-080		CAP, CER 0.1-50V
C32	87-018-209-080		CAP, CER 0.1-50V
C33	87-018-209-080		CAP, CER 0.1-50V
C34	87-010-582-010		CAP,E 4700-35
C35	87-010-582-010		CAP,E 4700-35
C36	87-010-405-080		CAP, ELECT 10-50V
C37	87-010-405-080		CAP, ELECT 10-50V
C38	87-010-405-080		CAP, ELECT 10-50V
C39	87-010-405-080		CAP, ELECT 10-50V
C40	87-010-405-080		CAP, ELECT 10-50V
C41	87-010-405-080		CAP, ELECT 10-50V
C42	87-010-382-080		CAP, ELECT 22-25V
C43	87-010-385-080		CAP, ELECT 220-25V
C44	87-010-405-080		CAP, ELECT 10-50V
C45	87-010-405-080		CAP, ELECT 10-50V
C46	87-010-385-080		CAP, ELECT 220-25V
C47	87-010-385-080		CAP, ELECT 220-25V
D6	86-SP2-629-080		LED,3 RED
FC1	87-YP4-610-010		F-CABLE 6P PT
J1	87-099-801-010		JACK,PIN 1P BLK
J2	86-SP2-641-010		TERMINAL,SPKR 4P
J3	86-SP2-641-010		TERMINAL,SPKR 4P
R75	87-YP3-627-010		RES,M/F 0.22-1W
R78	87-YP3-627-010		RES,M/F 0.22-1W
S1	86-SP2-633-010		SW,SL 1-1-2
S2	86-SP8-612-010		SW,SL 2-2-2
S3	86-SP2-633-010		SW,SL 1-1-2
S4	87-YP4-607-010		202-SPUN19,SW PUSH
VR1	87-YP4-604-010		104-20KB-14002,VR RTRY
POWER C.B			
C101	87-010-384-080		CAP, ELECT 100-25V
C102	87-010-260-080		CAP, ELECT 47-25V
C103	87-010-405-080		CAP, ELECT 10-50V
C104	87-010-396-080		CAP,E 470-35 SME
C105	87-010-405-080		CAP, ELECT 10-50V
C106	87-010-394-080		CAP ELECT220-35V
C107	87-018-209-080		CAP, CER 0.1-50V
C108	87-018-209-080		CAP, CER 0.1-50V
C109	87-010-402-080		CAP, ELECT 2.2-50V
C110	87-010-384-080		CAP, ELECT 100-25V
C112	87-018-209-080		CAP, CER 0.1-50V
C113	87-018-209-080		CAP, CER 0.1-50V
⚠ F101	87-035-455-010		FUSE 2A250V T W/C
⚠ FC101	87-033-213-080		CLAMP, FUSE
⚠ FC102	87-033-213-080		CLAMP, FUSE
⚠ PR101	87-A90-393-080		PROTECTOR,0.5A 491SERISE 60V
⚠ PR102	87-A90-091-080		PROTECTOR,2A 491
⚠ PR103	87-A90-091-080		PROTECTOR,2A 491
⚠ PT101	87-YP4-613-010		PT,E
⚠ RY101	87-A90-143-010		RELAY,DG12D-OS(M)
⚠ T101	82-304-743-010		TERMINAL, 1P
⚠ T102	82-304-743-010		TERMINAL, 1P

TRANSISTOR ILLUSTRATION

ECB

2SA1015
2SC1815
2SC2240
2SD655

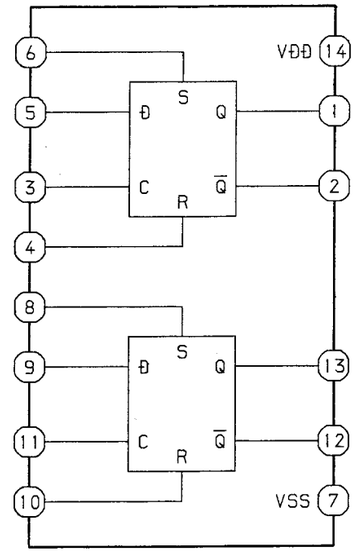


BCE

2SD2061

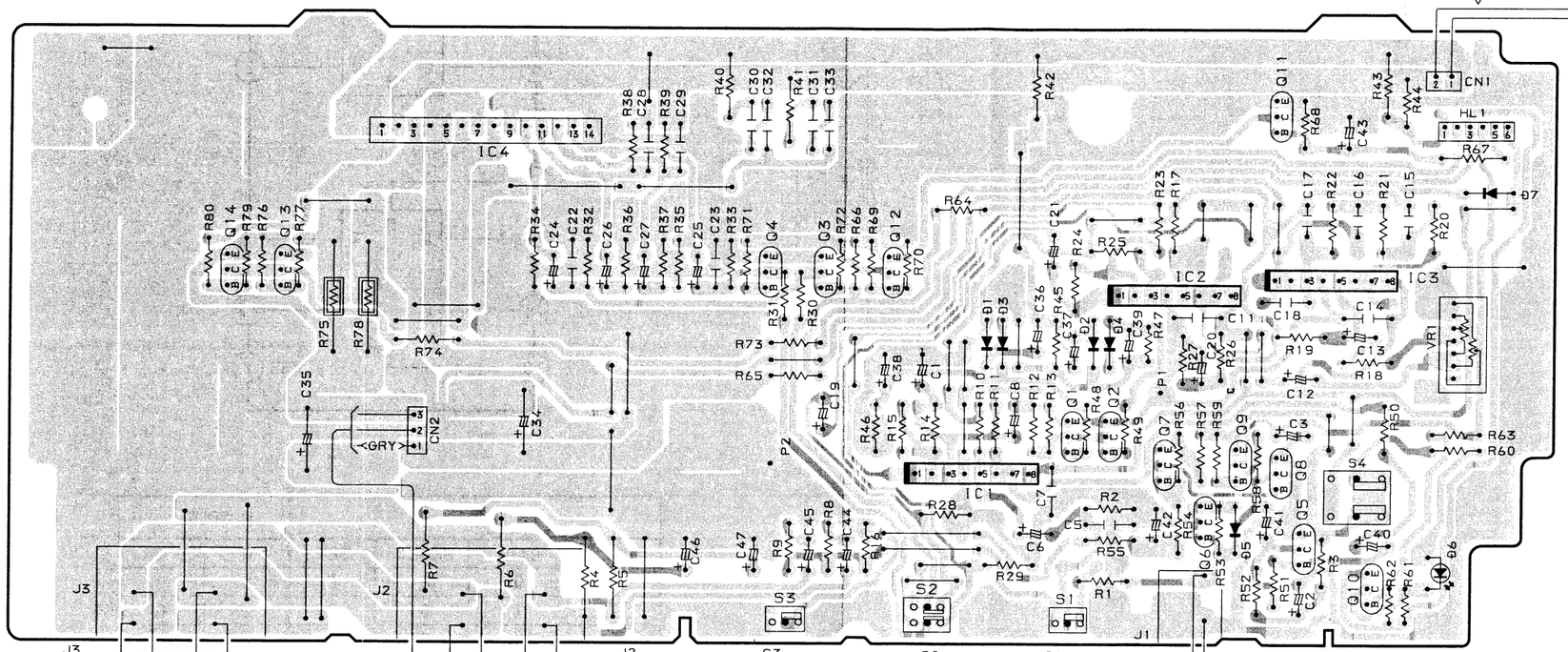
IC BLOCK DIAGRAM

IC, MC140138CP

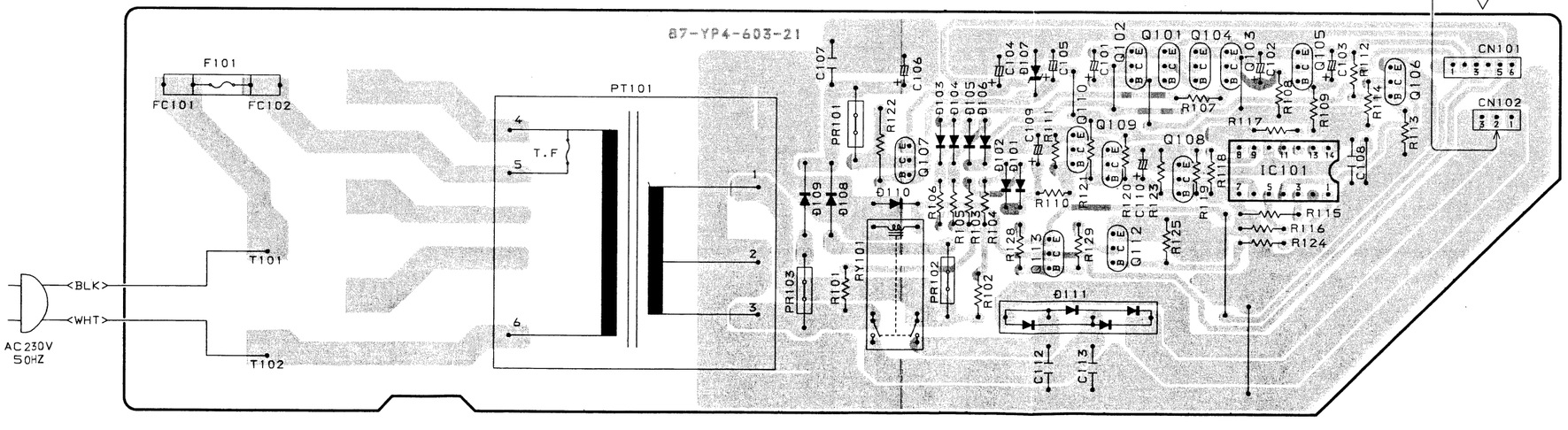


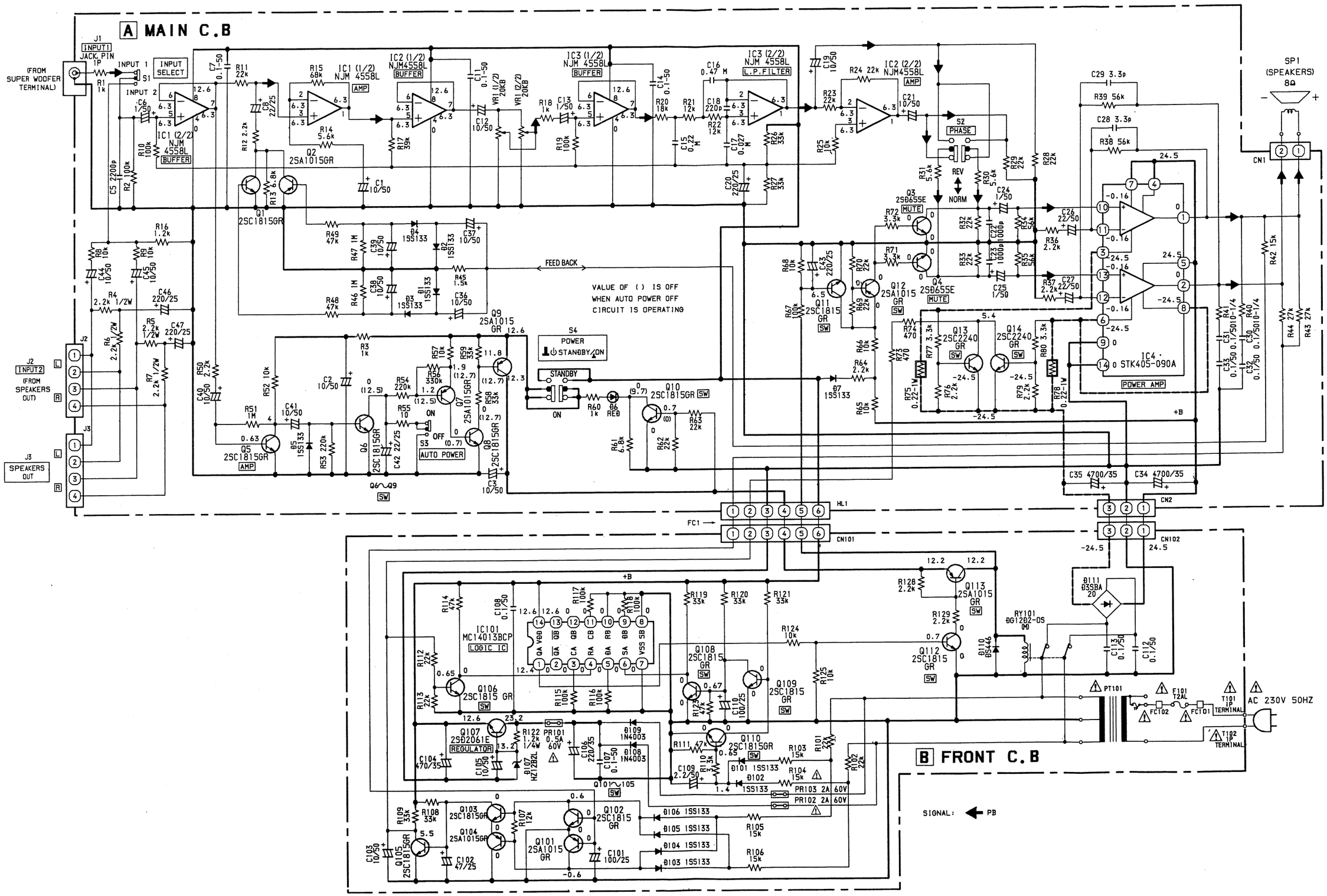
INPUT				OUTPUT	
CLOCK	ĐATA	RESET	SET	Q	$\overline{Q}$
⌐	0	0	0	0	1
⌐	1	0	0	1	0
¬	X	0	0	Q	$\overline{Q}$
X	X	1	0	0	1
X	X	0	1	1	0
X	X	1	1	1	1

A MAIN C.B

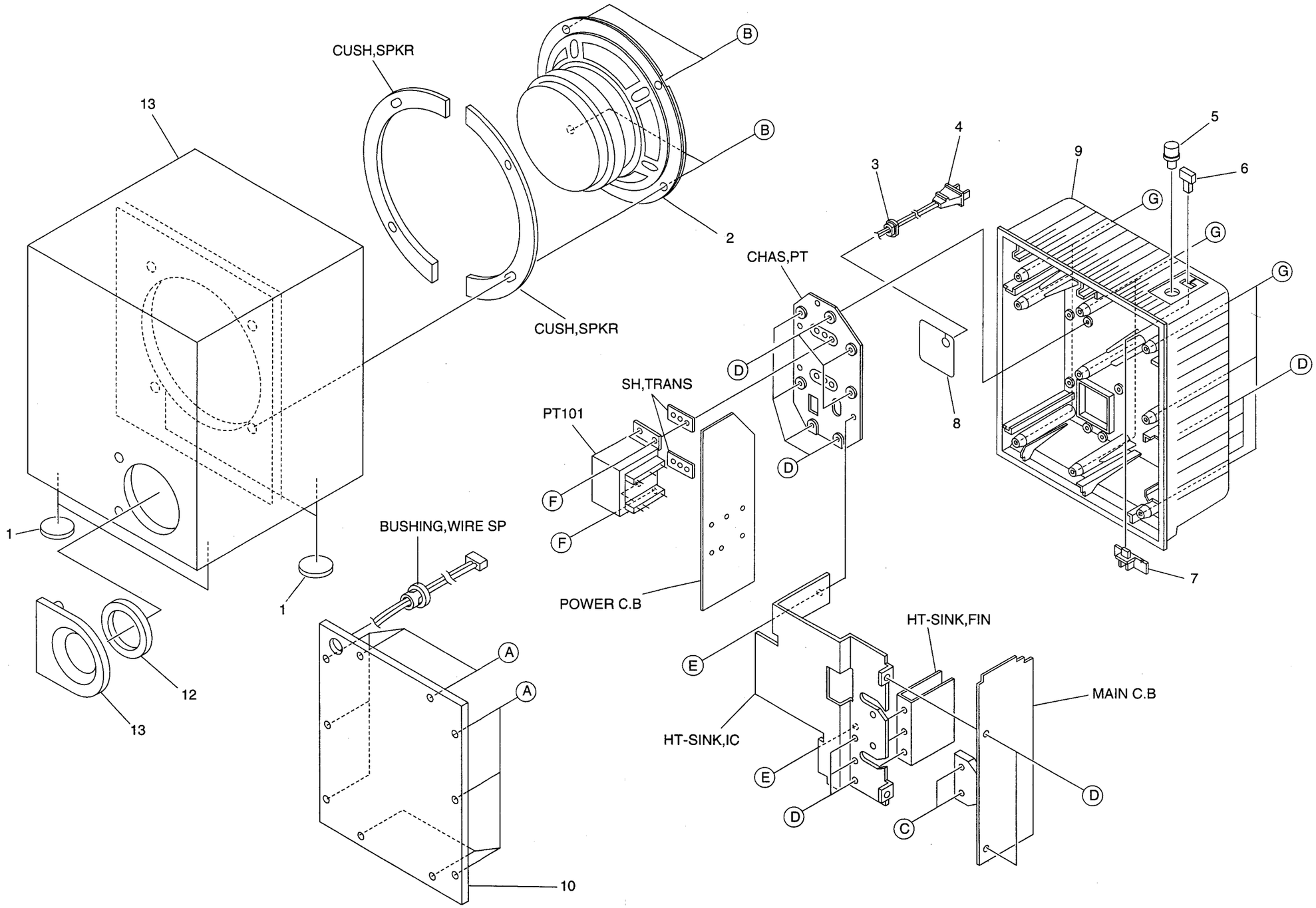


B POWER C.B




A MAIN C.B
B FRONT C.B
J1
INPUT1
JACK, PIN
(FROM SUPER WOOFER TERMINAL)
INPUT SELECT
S1
INPUT 1
INPUT 2
IC1 (1/2) NJM 4558L BUFFER
IC1 (2/2) NJM 4558L BUFFER
IC2 (1/2) NJM4558L BUFFER
IC3 (1/2) NJM 4558L BUFFER
IC3 (2/2) NJM 4558L L.P.FILTER
IC2 (2/2) NJM4558L AMP
IC1 (1/2) NJM 4558L AMP
Q1 2SC1815GR
Q2 2SA1015GR
Q3 2SB655E MUTE
Q4 2SB655E MUTE
Q5 2SC1815GR AMP
Q6~Q9 SW
Q10 2SC1815GR SW
Q11 2SC1815 GR SW
Q12 2SA1015 GR SW
Q13 2SC2240 GR SW
Q14 2SC2240 GR SW
IC4 STK405-090A
POWER AMP
S2 PHASE
REV
NORM
S3 AUTO POWER
S4 POWER
STANDBY/ON
STANDBY
ON
FEED BACK
VALUE OF ( ) IS OFF WHEN AUTO POWER OFF CIRCUIT IS OPERATING
J2 INPUT2 (FROM SPEAKERS OUT)
J3 SPEAKERS OUT
SP1 (SPEAKERS) 8Ω
CN1
HL1
FC1
CN101
CN2
CN102
IC101 MC14013BCP LOGIC IC
Q101~105 SW
Q106 2SC1815 GR SW
Q107 2SD2061E REGULATOR
Q108 2SC1815 GR SW
Q109 2SC1815 GR SW
Q110 2SC1815GR SW
Q111 D3SBA 20
Q112 2SC1815 GR SW
Q113 2SA1015 GR SW
RY101 EG12D2-DS (M)
PT101
F101 T2AL
FCT01
FCT02
T101 1P TERMINAL
T102 1P TERMINAL
AC 230V 50HZ
+B
SIGNAL: PB

MECHANICAL EXPLODED VIEW 1 / 1



MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-SP2-208-010		FOOT
2	87-YP4-606-010		SPK
3	86-SP2-637-010		BUSHING,AC U
4	86-SP2-634-010		AC CORD,E<EZ>
4	86-SP2-635-010		AC CORD,K<K>
5	87-YP4-003-010		400-1R7YP-4,KNOB RTRY MAIN
6	87-YP4-004-110		BTN,KNOB POWER
7	87-YP4-005-010		405-1W7YP-4,WINDOW LED
8	86-SP2-030-010		PLATE,AC
9	87-YP4-013-010		CABI,REAR W/TERMINAL
10	87-YP4-010-010		PANEL,WOOD<K>
10	87-YP4-019-010		PANEL,WOOD E1<EZ>
11	87-YP4-002-010		CABI,DUCT
12	87-YP4-206-010		RING,DUCT
13	87-YP4-006-110		CABI,WOOD<K>
13	87-YP4-018-010		CABI,WOOD E1<EZ>
A	87-YP4-211-010		SW+3.5-22
B	87-YP4-217-010		BVT1+3.5-12
C	87-067-698-010		BVT2+3-18(W/O,SLOT)
D	87-067-703-010		TAPPING SCREW, BVT2+3-10
E	87-067-689-010		TAPPING SCREW, BVTT+3-8
F	87-067-566-010		TAPPING SCREW, VFTT+3-6
G	87-641-101-410		UT1+3-18

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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